Upgradation of basic S&T research programme

382. SHRI A. ELAVARASAN: Will the Minister of SCIENCE AND TECH-NOLOGY be pleased to state:

(a) whether it is a fact that there is an acute vacuum in upgradation of basic science and technology research programme especially during the last three years;

(b) if so, whether Government proposes any *ad hoc* fund allocation for upgradation of basic science and technology research programme;

(c) if so, the details thereof; and

(d) if not, the reasons therefor?

THE MINISTER OF SCIENCE AND TECHNOLOGY (SHRI KAPIL SIBAL): (a) to (d) No, Sir. The Government of India, on its part, has taken a number of steps to rejuvenate and promote scientific research in the country. The Plan Allocation of scientific departments has been trebled from about Rs. 25000 crore in the Tenth Plan to about Rs. 75000 crores in the Eleventh Plan. It clearly indicates the commitment of the Government in the development and upgradation of science and technology including basic research. The Research Development programme of the Department of Science and Technology is a targeted programme to upgrade the laboratory infrastructure in universities and other higher educational institutions. Several institutions, centres of excellence and facilities in emerging and frontline areas have also been established; for example, in the areas of Brain Research, Marine Biotechnology, Stem Cell and Tissue Engineering, Soft Computing, Water Resources Development, Nanophosphors, Display Technology; Fuel Cell Technology, Nano Science and Technology, Ultrafast Processes, Protein Research, etc. Several impressive results including publications in high impact journals, patents, human resource development, etc. have been emanated from the research investment. The support to research is enhanced through S and T mission mode programmes, establishment of new research centres of excellence, international collaborative projects, strengthening of R and D infrastructure in academic institutions and research labs, institution of prestigious fellowships like Swarnajayanti Fellowship for outstanding Young Scientists, Ramanna Fellowship for performing scientists, Shyama Prasad Mukherjee Fellowship for Young Scientists, Ramanujan Fellowships to attract outstanding scientists and engineers from all over the world to take up scientific research in our country, J.C Bose Fellowships to recognize and support active, performing Indian scientists and engineers. It is also planned to establish autonomous research institutes in the areas of nanomaterials science and technology, molecular materials, glaciology, cancer research etc.

To take up the basic research further to higher levels, the Government has instituted a 'Science and Engineering Research Board' (SERB) of international standard in the country. The SERB serves as a premier multi-disciplinary research agency for planning, promoting and funding of internationally competitive research in emerging areas; identify major inter-disciplinary

research areas, and individuals, groups or institutions and funding them for undertaking research; evolve nationally coordinated programmes in various identified areas; assist in setting up infrastructure and environment for scientific pursuit; achieving synergy between academic institutions, research and development laboratories and industry for promoting basic research in science and engineering and engage a management system to speedily provide for funding research, including monitoring and evaluation, by adopting modern management practices.

India's position in field of scientific R&D

†383. SHRI JAI PARKASH AGGARWAL: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) the position of India in the field of scientific research and development in global context;

(b) the number of applications submitted for patent of new inventions by Indian scientists and those by other developed and developing countries during last five years; and

(c) the steps taken to arrest the present slow pace of progress in the field of scientific research and development in India?

THE MINISTER OF SCIENCE AND TECHNOLOGY (SHRI KAPIL SIBAL): (a) The R&D expenditure as a percentage of Gross Domestic Product (GDP) and R&D manpower per million population of select developed and developing countries is given in the Statement (*See* below).

(b) The total number of applications filed by Indians and foreigners during the last five years is as under:

Year	Patent applications filed		
	Domestic	Foreign	Total
2003-04	3218	9395	12613
2004-05	3630	13836	17466
2005-06	4521	19984	24505
2006-07	5314	23626	28940
2007-08	6040	29178	35218

(c) The Government has taken various measures from time to time to enhance scientific research and development activities in the country. These measures include higher allocation for scientific research from Plan to Plan, setting up of new institutions for science education and research, creation of centres of excellence and facilities in emerging and frontline areas in academic and national institutes, induction of new and attractive fellowships such as INSPIRE, BOYSCAST, strengthening infrastructure for R&D in universities, offering attractive salary packages along with incentives, national awards for outstanding R and D etc. Accordingly, the Government have enhanced Eleventh Plan allocation for scientific departments to Rs. 75,304.00 crores from Rs. 24,301.35 crores during the Tenth Plan.

†Original notice of the question was received in Hindi.